

CLAIM LISTING

This listing of claims will replace all prior versions, and listings of claims in the application:

IN THE CLAIMS

1. (Currently Amended) A computer-automated method for electronic design specification comprising:

obtaining a target architecture defining a plurality of hardware resources;
~~specifying at least one resource or functionality~~ describing the plurality of
hardware resources for the target architecture using at least one construct in a Resource Description Language (RDL) to produce an RDL description;
generating an intermediate graph representation from the RDL description, the intermediate graph representation storing features and characteristics of the plurality of hardware resources and interconnects between the plurality of hardware resources;
traversing the intermediate graph representation; ~~and~~
invoking results of the traversing step using a high-level synthesis compiler to generate a functionality graph and resource graphs for the target architecture; and
mapping application code onto the plurality of hardware resources using the functionality graph and the resource graphs.

2-20. (Cancelled)

21. (Original) The method of claim 1 wherein:

a resource is used to specify an architecture and a plurality of functionalities.

22. (Original) The method of claim 1 wherein:

a unit is used to specify a hardware structure comprising a hierarchical representation of one or more hardware structure.

23. (Original) The method of claim 1 wherein:
a UNITDEF value defines or describes a hierarchy of a unit.
24. (Original) The method of claim 1 wherein:
a RESOURCEDEF value defines a resource among a set of functionality or associated property.
25. (Original) The method of claim 1 wherein:
a RCONNECT value denotes a connection between an origin resource and a destination resource via a connecting resource.
26. (Original) The method of claim 1 wherein:
a USES value indicates one or more resource used by a particular resource, the USES value defining at least one virtual resource for building at least one physical resource in an architecture.
27. (Original) The method of claim 1 wherein:
a FUNCTIONALITY value specifies a set of one or more basic operator to provide a functionality.
28. (Original) The method of claim 1 wherein:
a FUNCTIONALITYDEF value defines a composition of a new functionality.
29. (Original) The method of claim 1 wherein:
a DCONNECT value connects a plurality of basic operators while constructing a new functionality.
30. (Original) The method of claim 1 wherein:
an INPUT value specifies one or more input node for constructing a new functionality .

31. (Original) The method of claim 1 wherein:

an OUTPUT value specifies one or more output node for constructing a new functionality.

32. (Original) The method of claim 1 wherein:

an OPT_INPUT value specifies one or more optional input node while constructing a new functionality.

33. (Original) The method of claim 1 wherein:

an if value specifies an arbitrarily complex connection between a plurality of resources in conjunction with using a for value.

34. (Original) The method of claim 1 wherein:

a for value specifies an arbitrarily complex connection between a plurality of resources in an architecture.

35. (Original) The method of claim 1 wherein:

at least one operator in a resource design language (RDL) specifies a hardware and a processing of the hardware.

36. (Original) The method of claim 32 wherein:

a hierarchy traversal operator (->) specifies a unit or resource embedded within one or more units by specifying a chain of units hierarchically with the -> operator denoting a child-parent relationship in a hierarchy.

37. (Original) The method of claim 32 wherein:

an array operator ([]) specifies an array or collection of one or more resource or unit.

38. (Original) The method of claim 32 wherein:

a comment operator (//) inserts one or more comment in an architecture file.

39. (Original) The method of claim 32 wherein:

operators +, -, *, /, %, =, !=, >, >=, <, and <= comprise a set of arithmetic or logical operators for constructing one or more expression for use with an if construct selectively to make one or more connection in a for loop.

40-52. (Cancelled)